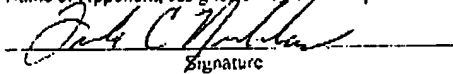


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FRANK C. NICHOLAS (33,983)

Name of Appellant, assignee, or registered representative


SignatureFebruary 25, 2004

Date of Signature

PATENT
Case No. US010345
(7790/46)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

DEMETRI GIANNOPOULOS, ET AL.

Serial No.: 09/916,955

Filed: JULY 27, 2001

For: DUAL ENERGY COUPLING
DEVICE

Examiner: POLK, SHARON A.

Group Art Unit: 2836

APPEAL BRIEF

Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Appellant herewith respectfully presents a Brief on Appeal as follows:

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CC
NV

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1. REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

2. RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 13-15 have been cancelled from the present application. Claims 1-12, 16 and 17 are currently the claims pending in the application, and are the claims on appeal. See, the Appendix.

Claims 1 stands finally rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,422,519 to *Russell*.

Claim 2 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,422,519 to *Russell* in view of U.S. Patent No. 5,521,573 to *Inoh et al.*

Claim 3 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,422,519 to *Russell* in view of U.S. Patent No. 5,814,900 to *Esser et al.*

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Claim 4 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,422,519 to *Russell* in view of U.S. Patent No. 6,087,694 to *Ohno* et al.

Claims 5-9 stand finally rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,742,408 to *Jaeger*.

Claim 10 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 3,742,408 to *Jaeger* in view of U.S. Patent No. 5,521,573 to *Inoh* et al.

Claim 11 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 3,742,408 to *Jaeger* in view of U.S. Patent No. 5,814,900 to *Esser* et al.

Claim 12 stands finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 3,742,408 to *Jaeger* in view of U.S. Patent No. 6,087,694 to *Ohno* et al.

Claims 16 and 17 stand finally rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 3,742,408 to *Jaeger* in view of U.S. Patent No. 4,893,332 to *Brown* et al.

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4. STATUS OF AMENDMENTS

A request for reconsideration under 37 C.F.R. §1.112 involving an amendment of claims 1, 2, 4-10, 12, 16 and 17, and a cancellation of claims 13-15 was filed on 03/21/2003, and was entered into the present application by Examiner Polk.

A request for reconsideration under 37 C.F.R. §1.116 involving an amendment of claim 16 was filed on 07/30/2003, but was not entered into the present application by Examiner Polk.

5. SUMMARY OF THE INVENTION

As illustrated in FIGS. 1 and 5, a source circuit 10 of a dual energy coupling device employs a source 11, a source 12 and a source 13, and a load circuit 20 of the dual energy coupling device employs a load 21, a load 22, and a load 23. A pair of conductors 14 and 24 serves as means for inductively coupling source 11 and load 21 by a transfer of magnetic energy across an interface 30 when source 11 is providing an electrical signal I_{SS1} . Likewise, a pair of conductors 15 and 25 serves as means for inductively coupling source 13 and load 23 by a transfer of magnetic energy across interface 30 when source 12 is providing an electrical signal I_{SS2} . Additionally, conductors 14, 24, 15 and 25 serve as means for capacitively coupling source 12 and load 22 by a transfer of electric energy across the interface when source 11 and load 21 are inductively coupled and when source 13 and load 23 are inductively coupled. *See, U.S. Patent Application Serial No. 09/916,955 at page 4, line 23 to page 6, line 18; and page 8, line 8 to page 9, line 17.*

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As illustrated in FIGS. 2A and 3A, to enhance the energy transfers across interface 30, conductors 14 and 24 have spiral configurations that are symmetrical relative to interface 30, and conductors 15 and 25 have spiral configurations that are symmetrical relative to interface 30. Furthermore, as illustrated in FIGS. 4A-4E, conductors 14 and 15 are formed on a corrugated surface of a substrate 40, and conductors 24 and 25 are formed on a corrugated surface of a substrate 41. See, U.S. Patent Application Serial No. 09/916,955 at page 6, line 19 to page 8, line 7.

6. ISSUE

Whether claims 1-4 are patentable over *Russell*, and whether claims 5-12, 16 and 17 are patentable over *Jaeger*.

7. GROUPING OF CLAIMS

Claims 1-12, 16 and 17 should be considered as four (4) groups.

Group I includes independent claim 1, and dependent claims 2-4.

Group II includes independent claim 5, and dependent claims 6-12.

Group III includes independent claim 16.

Group IV includes independent claim 17.

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8. ARGUMENTS

Claim Groups I and II. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Appellant respectfully traverses the §102(b) rejection of independent claim 1, because *Russell* fails to disclose and teaches away from "wherein said first electric conductor is operable to transfer a magnetic energy and an electric energy across an interface to said second electric conductor in response to a reception of an alternating electric signal" as recited in independent claim 1.

Specifically, as illustrated in FIGS. 1-3, *Russell* teaches an electric isolation of core 2 from a core 3 by an insertion of a skin interface 4 between core 2 and core 3. See, *Russell* at column 2, line 66 to column 3, line 14. As is well known in the art, to establish an electrically isolation of core 2 from core 3, there must be zero voltage drop across skin interface 4 and zero current flow through skin interface 4. Consequently, there must be no electric energy transferred across skin interface 4 to electrically isolate core 2 from core 3.

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To transfer power from circuit 10 to circuit 11 as illustrated in FIGS. 2-5, *Russell* teaches a generation of a magnetic field by core 2 in response to an electric voltage signal applied by circuit 10 to winding 5 whereby the magnetic field of core 2 crosses the skin interface 4 to cut through core 3 and winding 6 to thereby induce a generation of a voltage signal by core 3. Conversely, to transfer power from circuit 11 to circuit 10, *Russell* teaches a generation of a magnetic field by core 3 in response to an electric voltage signal applied by circuit 11 to winding 6 whereby the magnetic field of core 3 crosses the skin interface 4 to cut through core 2 and winding 5 to thereby induce a generation of a voltage signal by core 2. See, *Russell* at column 3, lines 18 to 29.

In summary, *Russell* clearly discloses electric conductor 5 being operable to transfer a magnetic energy via core 2 across skin interface 4 to electric conductor 6 in response to a reception of an alternating electric signal by conductor 5 from circuit 10, and electric conductor 6 operable to transfer a magnetic energy via core 3 across skin interface 4 to electric conductor 5 in response to a reception of an alternating electric signal by conductor 6 from circuit 11. And, by teaching an electric isolation of cores 2 and 3, *Russell* unequivocally teaches away from electric conductor 5 being operable to transfer an electric energy across skin interface 4 to electric conductor 6 in response to a reception of an alternating electric signal by conductor 5 from circuit 10, and electric

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conductor 6 operable to transfer an electric energy across skin interface 4 to electric conductor 5 in response to a reception of an alternating electric signal by conductor 6 from circuit 11. Otherwise, cores 2 and 3 would not be electrically isolated.

Withdrawal of the rejection of independent claim 1 under 35 U.S.C. §102(b) as being anticipated by *Russell* is therefore respectfully requested.

Claim 2 depends from independent claim 1. Therefore, dependent claim 2 includes all of the elements and limitations of independent claim 1. It is therefore respectfully submitted by the Appellant that dependent claim 2 is allowable over *Russell* in view of *Inoh* for at least the same reason as set forth herein with respect to independent claim 1 being allowable over *Russell*. Withdrawal of the rejection of dependent claim 2 under U.S.C. §103(a) as being patentable over *Russell* in view of *Inoh* is therefore respectfully requested.

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Claim 3 depends from independent claim 1. Therefore, dependent claim 3 includes all of the elements and limitations of independent claim 1. It is therefore respectfully submitted by the Appellant that dependent claim 3 is allowable over *Russell* in view of *Esser* for at least the same reason as set forth herein with respect to independent claim 1 being allowable over *Russell*. Withdrawal of the rejection of dependent claim 3 under U.S.C. §103(a) as being patentable over *Russell* in view of *Esser* is therefore respectfully requested.

Claim 4 depends from independent claim 1. Therefore, dependent claim 4 includes all of the elements and limitations of independent claim 1. It is therefore respectfully submitted by the Appellant that dependent claim 4 is allowable over *Russell* in view of *Ohno* for at least the same reason as set forth herein with respect to independent claim 1 being allowable over *Russell*. Withdrawal of the rejection of dependent claim 4 under U.S.C. §103(a) as being patentable over *Russell* in view of *Ohno* is therefore respectfully requested.

The Appellant respectfully traverses the §102(b) rejection of independent claim 5, because *Jaeger* fails to disclose, teach or suggest "wherein said first electric conductor is operable to transfer a first magnetic energy and a first electric energy across an interface to said second electric conductor in response to a reception of the first electric signal" as recited in independent claim 5.

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Specifically, *Jaeger* discloses a power source 10, an electric conductor 18 in electrical communication with power source 10 to thereby receive a first electric signal from power source 10, and an electric conductor 28 in electrical communication with a load 20. *Jaeger* teaches an interconnection of a toroid 12 and a toroid 22 by a single loop 30 across an air interface between toroids 12 and 22, wherein electric conductor 18 is operable to transfer electric energy across the air interface via toroid 12, loop 30 and toroid 22 to electric conductor 28 (i.e., a flow of an electric current through loop 30 as induced by toroid 12, which is energized by the flow of current through conductor 18 as supplied by power source 10). *Jaeger* fails to teach or suggest electric conductor 18 being operable to transfer magnetic energy across the air interface via toroid 12 and toroid 22 to electric conductor 28 (i.e., a flow of magnetic flux lines from toroid 12 across the air interface to toroid 22 that is induced by the flow of current through conductor 18 as supplied by power source 10).

Withdrawal of the rejection of independent claim 5 under 35 U.S.C. §102(b) as being anticipated by *Jaeger* is therefore respectfully requested.

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Claims 6-9 depend from independent claim 5. Therefore, dependent claims 6-9 include all of the elements and limitations of independent claim 5. It is therefore respectfully submitted by the Appellant that dependent claims 6-9 are allowable over *Jaeger* for at least the same reason as set forth herein with respect to independent claim 5 being allowable over *Jaeger*. Withdrawal of the rejection of claims 6-9 under 35 U.S.C. §102(b) as being anticipated by *Jaeger* is respectfully requested.

Claim 10 depends from independent claim 5. Therefore, dependent claim 10 includes all of the elements and limitations of independent claim 5. It is therefore respectfully submitted by the Appellant that dependent claim 10 is allowable over *Jaeger* in view of *Inoh* for at least the same reason as set forth herein with respect to independent claim 5 being allowable over *Jaeger*. Withdrawal of the rejection of dependent claim 10 under U.S.C. §103(a) as being patentable over *Jaeger* in view of *Inoh* is therefore respectfully requested.

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Claim 11 depends from independent claim 5. Therefore, dependent claim 11 includes all of the elements and limitations of independent claim 5. It is therefore respectfully submitted by the Appellant that dependent claim 11 is allowable over *Jaeger* in view of *Esser* for at least the same reason as set forth herein with respect to independent claim 5 being allowable over *Jaeger*. Withdrawal of the rejection of dependent claim 11 under U.S.C. §103(a) as being patentable over *Jaeger* in view of *Esser* is therefore respectfully requested.

Claim 12 depends from independent claim 5. Therefore, dependent claim 12 includes all of the elements and limitations of independent claim 5. It is therefore respectfully submitted by the Appellant that dependent claim 12 is allowable over *Jaeger* in view of *Ohno* for at least the same reason as set forth herein with respect to independent claim 5 being allowable over *Jaeger*. Withdrawal of the rejection of dependent claim 12 under U.S.C. §103(a) as being patentable over *Jaeger* in view of *Ohno* is therefore respectfully requested.

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Claim Groups III and V. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, MPEP §2143.

The Appellant respectfully traverses the §103(a) rejection of dependent claim 16, because *Jaeger* and *Brown* in combination fails to disclose, teach or suggest “means for capacitively coupling said third power source and said third load when said first power source and said first load are inductively coupled and when said second power source and said second load are inductively coupled” as recited in independent claim 16.

Specifically, Examiner Polk has correctly recognized *Jaeger*’s failure to disclose, teach or suggest the aforementioned limitation of claim 16. A careful review of *Brown* reveals that *Brown* also fails to disclose, teach or suggest the aforementioned limitation of claim 16. Specifically, as illustrated in FIGS. 2 and 5, *Brown* discloses a capacitive coupling of a power source in the form of inductively coupled telephone lines 102 and 103 to a load in the form of bridge rectifier 106 via capacitors 104 and 105. See, *Brown*

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at column 3, line 20 to column 4, line 2. With the inductively coupled telephone lines 102 and 103 serving as the "third power source" recited in independent claim 16, and the bridge rectifier 106 serving as the "third load" recited in independent claim 16, *Brown* clearly fails to teach or suggest a "first power source" and "first load" being "inductively coupled" and a "second power source" and "second load" being "inductively coupled" as required by independent claim 16.

Withdrawal of the rejection of independent claim 16 under 35 U.S.C. §103(a) as being unpatentable over *Jaeger* in view of *Brown* is therefore respectfully requested.

The Appellant respectfully traverses the §103(a) rejection of independent claim 17, because *Jaeger* and *Brown* in combination fails to disclose, teach or "means for capacitively coupling said third power source and said load when said first power source is providing the first electric signal and said second power source is providing the second electric signal" as recited in independent claim 17.

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Specifically, Examiner Polk has correctly recognized *Jaeger*'s failure to disclose, teach or suggest the aforementioned limitation of claim 17. A careful review of *Brown* reveals that *Brown* also fails to disclose, teach or suggest the aforementioned limitation of claim 17. Specifically, as illustrated in FIGS. 2 and 5, *Brown* discloses a capacitive coupling of a power source in the form of inductively coupled telephones lines 102 and 103 to a load in the form of bridge rectifier 106 via capacitors 104 and 105. See, *Brown* at column 3, line 20 to column 4, line 2. With the inductively coupled telephonic lines 102 and 103 serving as the "third power source" recited in independent claim 17, and the bridge rectifier 106 serving as the "load" recited in independent claim 17, *Brown* clearly fails to teach or suggest a "first power source" providing "a first electric signal" and a "second power source" providing "a second electric signal" as required by independent claim 17.

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Withdrawal of the rejection of independent claim 17 under 35 U.S.C. §103(a) as
being unpatentable over *Jaeger* in view of *Brown* is therefore respectfully requested.

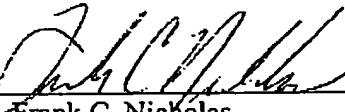
Dated: February 25, 2004

Respectfully submitted,
Demetri Giannopoulos

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APPENDIX

1. A dual energy coupling device, comprising:

a first electric conductor; and

a second electric conductor,

wherein said first electric conductor is operable to simultaneously transfer

a magnetic energy and an electric energy across an interface to said second electric

conductor in response to a reception of an alternating electric signal.

2. The dual energy coupling device of claim 1, wherein:

said first electric conductor has a first spiral configuration; and

said second electric conductor has a second spiral configuration.

3. The dual energy coupling device of claim 1, wherein:

said first electric conductor and said second electric conductor are symmetrical

relative to the interface.

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4. The dual energy coupling device of claim 1, further comprising:
 - a first substrate including a first corrugated surface having said first electric conductor formed thereon; and
 - a second substrate including a second corrugated surface having said second electric conductor formed thereon.

5. A dual energy coupling device, comprising:
 - a first power source operable to provide a first electric signal;
 - a first electric conductor in electrical communication with said first power source to thereby receive the first electric signal when said first power source is providing the first electric signal; and
 - a second electric conductor,
 - wherein said first electric conductor is operable to simultaneously transfer a first magnetic energy and a first electric energy across an interface to said second electric conductor in response to a reception of the first electric signal.

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6. The dual energy coupling device of claim 5, further comprising:
a load in electrical communication with said second electric conductor,
wherein a current drive signal flows through said second electric
conductor and said load in response to a reception of said first magnetic energy by said
second electric conductor.
7. The dual energy coupling device of claim 5, further comprising:
a second power source operable to provide a second electric signal;
a third electric conductor in electrical communication with said second power
source to thereby receive the second electric signal when said second power source is
providing the second electric signal; and
a fourth electric conductor,
wherein said third electric conductor is operable to simultaneously provide
a second magnetic energy and a second electric energy across the interface to said fourth
electric conductor in response to a reception of the second electric signal.

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8. The dual energy coupling device of claim 7, further comprising:
a load in electrical communication with said fourth electric conductor,
wherein a current drive signal flows through said fourth electric conductor
and said load in response to a reception of said second magnetic energy by said fourth
electric conductor.
9. The dual energy coupling device of claim 7, further comprising:
a third power source operable to provide a current control signal; and
a load operable to be in electrical communication with said third power source in
response to a reception of said first electric energy by said second electric conductor and
a reception of said second electric energy by said fourth electric conductor to thereby
receive the current control signal when said third power source is providing the current
control signal.
10. The dual energy coupling device of claim 5, wherein:
said first electric conductor has a first spiral configuration; and
said second electric conductor has a second spiral configuration.

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11. The dual energy coupling device of claim 5, wherein:
said first electric conductor and said second electric conductor are symmetrical relative to the interface.

12. The dual energy coupling device of claim 5, further comprising:
a first substrate including a first corrugated surface having said first electric conductor formed thereon; and
a second substrate including a second corrugated surface having said second electric conductor formed thereon.

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16. A dual energy coupling device, comprising:
- a first power source operable to provide a first electric signal;
 - a first load;
 - means for inductively coupling said first power source and said first load when said first power source is providing the first electric signal;
 - a second power source operable to provide a second electric signal;
 - a second load;
 - means for inductively coupling said second power source and said second load when said second power source is providing the second electric signal;
 - a third power source;
 - a third load; and
 - means for capacitively coupling said third power source and said third load when first power source and said first load are inductively coupled and when said second power source and said second load are inductively coupled.

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17. A dual energy coupling device, comprising:
- a first power source operable to provide a first electric signal;
 - a second power source operable to provide a second electric signal;
 - a third power source;
 - a load; and
- means for capacitively coupling said third power source and said load when said first power source is providing the first electric signal and said second power source is providing the second electric signal.